

Tricks of the Trade

Landmarks for Consistent Nerve Sparing during Robotic-Assisted Laparoscopic Radical Prostatectomy*

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Problem

ATHERMAL NERVE-SPARING IN SELECTED MEN improves postoperative potency.^{1,2} Consistently identifying and dissecting in either the interfascial or intrafascial plane, however, may be challenging. A number of techniques to perform nerve-sparing without cautery/harmonic energy have been previously described. We outline an approach to spare the neurovascular bundle (NVB) that emphasizes definition of posteromedial and anterolateral prostatic contours with landmarks to facilitate dissection of the interfascial plane, separating the two leaves of lateral pelvic fascia.³ In general, this approach is extended for intrafascial dissection only for men with low-volume, low-risk disease characteristics.

Technique

There are three important steps: (1) identification and dissection of the posterior plane between the prostatic and Denonvilliers' fascia to define the posterior prostatic contour; (2) entry into the interfascial plane at the midprostate, facilitating fascial separation that defines the anterolateral prostatic contour; (3) division of the prostatic pedicle and NVB release in an antegrade fashion.

After entry into the space of Retzius (with an extra or transperitoneal approach), the bladder neck is divided and the seminal vesicles are dissected free. The endopelvic fascia is not entered at this point. The seminal vesicles are then elevated out of the way by the fourth arm, and the plane between prostatic and Denonvilliers' fascia is sharply entered in the midline. The correct dissection plane is identified by a layer of glistening Denonvilliers' fascia inferiorly. If pre-rectal fat is seen, the plane of dissection is deep and is brought closer to the prostate. The dissection is continued laterally and distally until the medial border of the NVB is appreciated. This ensures adequate thinning of the vascular

pedicle facilitating subsequent clip placement, aids in lateralization of the NVB, and defines the posterior prostatic contour (Fig. 1).

The lateral pelvic fascia interfascial plane is exposed anteriorly via a "prostatic rub" entering the fusion point of endopelvic and lateral pelvic fascia at the midprostate level. The levator fascia, the lateral leaf of the lateral pelvic fascia, is swept from the anterolateral prostatic contour along a natural cleavage plane. The dissection is continued until nerve plexus components are encountered running lateral on the medial surface of the levator fascia. These are swept from the prostate and remain intact on the levator fascia, underlying the levator muscle (Fig. 2). If levator muscle fibers are seen, the plane of dissection is too lateral and is brought medially. If intrafascial dissection is performed, the prostatic fascia, the medial leaf of lateral pelvic fascia, may be entered sharply and elevated in similar fashion as described by Menon and colleagues.¹ The dissection is continued retrograde until the distal extent of the prostatic pedicle is encountered.

The prostatic pedicles are placed on 45-degree supramedi- al tension. The posteromedial and anterolateral contours of the prostate can now be easily appreciated and the prostatic pedicle clipped and divided medial to the NVB, completing the circumferential dissection along the prostatic contour (Fig. 3). The NVB can now continue to be released in an antegrade, athermal fashion in either the interfascial or intrafascial plane as desired.

Conclusion

Using self-reported, validated, quality-of-life instruments, we have observed earlier and significantly improved sexual function with the described technique. Care must be taken when modifying NVB-sparing techniques, as margin rate positivity may offset improved recovery of sexual function.

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*A video demonstrating the technique described here is available online at www.liebertpub.com/end.

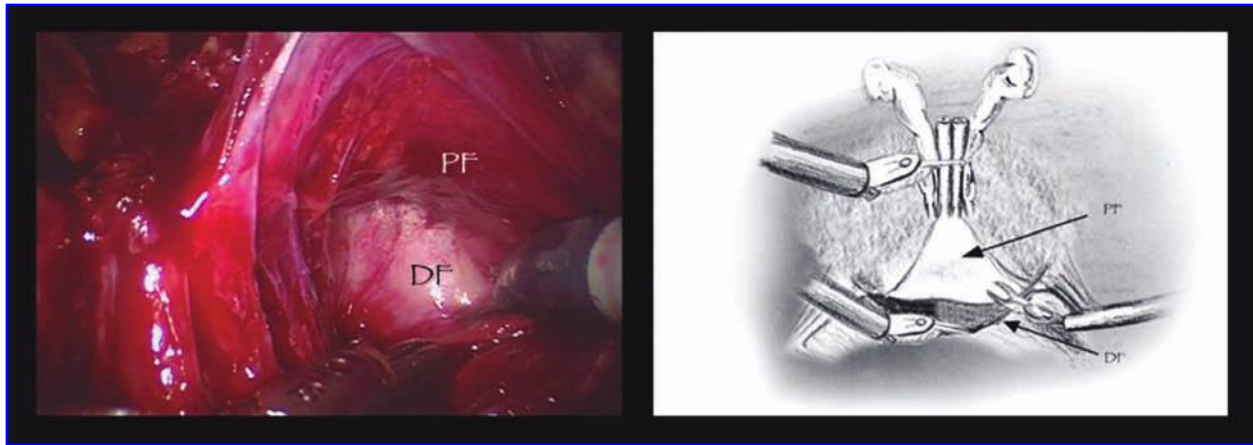


FIG. 1. The dissection plane between Denonvilliers' (DF) and the prostatic fascia (PF) is developed, defining the posterior prostatic contour.

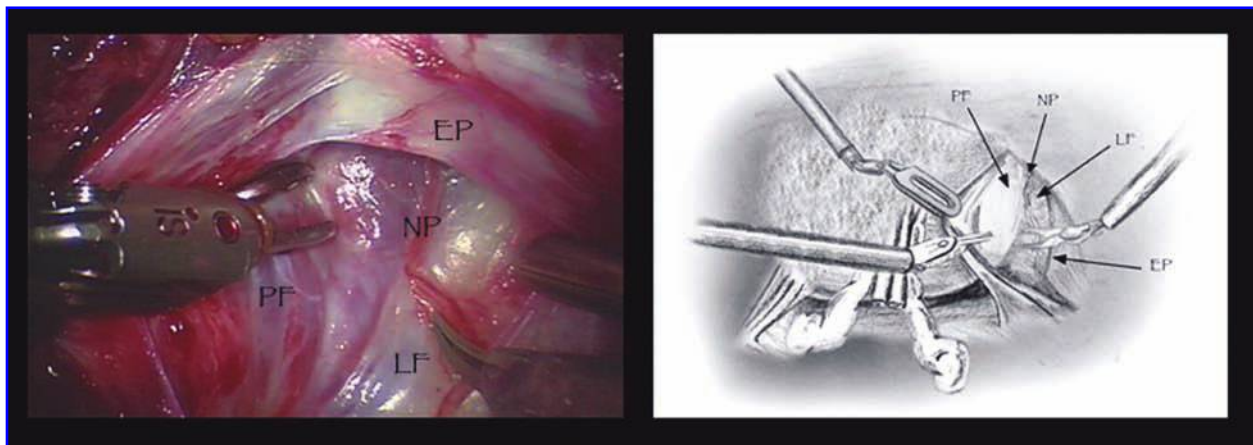


FIG. 2. Separation of lateral pelvic fascia into prostatic fascia (PF) and levator fascia (LF) defining nerve plexus components (NP) and anterolateral prostatic contour. Endopelvic fascia (EP).

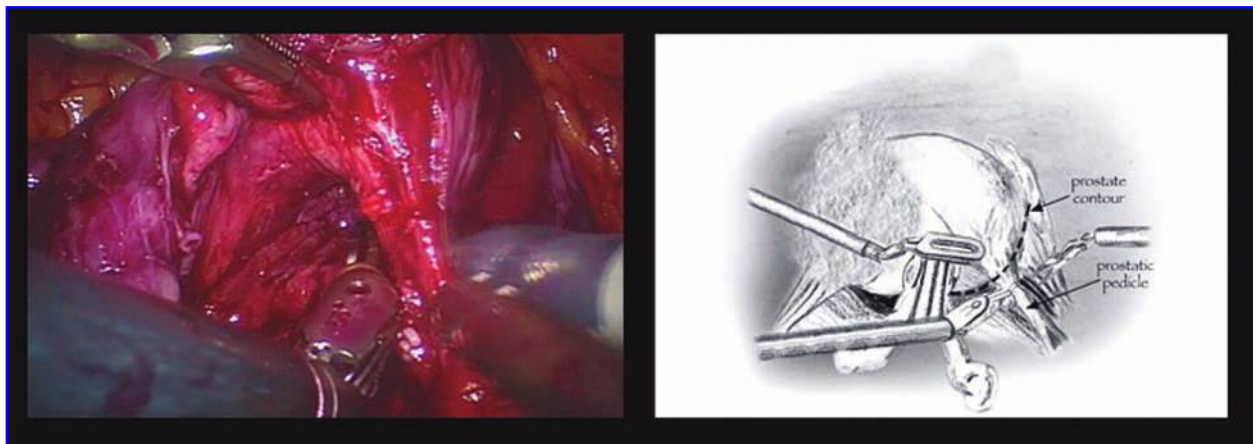


FIG. 3. Dotted line represents plane of dissection as defined by posterior and anterolateral prostatic contours.

References

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Abbreviation Used

NVB = neurovascular bundle

